OVARIAN FOLLICULAR DYNAMICS IN HARTóN DEL VALLE BREED (BOS TAURUS) CATTLE IN COLOMBIA

Adriana Correa-Orozco1, Luis Fernando Uribe-Velasquez2, Martha Liliana Torres Londoño2, Luis Alejandro Velandia Benjumea2, Grupo de Investigación en Ciencias Veterinarias - CIENVET
1Maestría en Ciencias Veterinarias, 2Salud Animal, Universidad de Caldas, Manizales, Colombia

Introduction: Harton del Valle breed belong to the seven Creole breeds of the Colombian bovine livestock. Some genetic studies on Colombian Creole cattle has shown the value of these breeds in tropical production systems. Due to the high importance of the Creole cattle and their decreasing number during the last years, Colombia government established conservation policies in order to set up selection strategies based on morphologic, productive and genetic characterization.

Objective: The follicular dynamics in suckled Harton del Valle (Bos taurus) cows were studied.

Material and methods: Estrous cycles of eight suckled cycling cows (≥ 100 d postpartum) were studied after estrous synchronization protocol (PEPE). At the start (designated Day 0), cows were given a progesterone-releasing intravaginal device (1.3 g of progesterone) and 2.5 mg estradiol benzoate (EB) im. On Day 8, the device was removed and cows were given PGF2α (150 µg of D-cloprostenol im), followed in 24 h by 1.25 mg EB im. After estrus detection, all animals were examined daily by ultrasonography using an Aquila Vet with a transrectal 7.5 MHz linear-array transducer for one estrous cycle (22 d). Data were analyzed using PROC MIXED from the Statistical Analysis System.

Results and discussion: Examinations revealed that follicular growth during estrous cycle occurs in waves; the cows showed

1-wave (1/8),
2-wave (3/8),
3-wave (3/8) or
4-wave (1/8) follicular growth.

Follicular waves emerged on Days 1.00 ± 1.00 and 11.33 ± 1.53 in two-wave cycles (Waves 1 and 2) and on Days 1.00 ± 1.00, 8.00 ± 1.00 and 13.67 ± 1.15 in three-wave cycles (Waves 1, 2 and 3). The maximum diameter reached by the second largest follicle (subordinate follicle) of last follicular wave was 6.50 ± 2.64 and 6.00 ± 1.41 mm for the 2 and 3 wave cycle animals, respectively. The growth rate of the largest follicle in the last or ovulatory wave of the cycle was 0.72 ± 0.22 and 1.35 ± 0.35 mm/day in cows with 2 and 3 waves, respectively. In the ovulatory wave, the maximum diameters of largest follicle were 10.80 ± 3.56 and 9.80 ± 0.80 mm for females with 2 and 3 wave cycle, respectively.

Conclusion: The results demonstrate that although the dominant follicle is similar to those observed in Bos indicus breeds, the follicular dynamics in Harton del Valle cows were characterized by 2 or 3 follicular waves after progesterone-based estrous synchronization protocol.

Keywords: Dominant follicle, ovulatory wave, ultrasonography